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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,620	04/16/2004	Kenichi Mukai	100689.53997US	7867

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EXAMINER

SEVERSON, JEREMY R

ART UNIT	PAPER NUMBER
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3653

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,620	MUKAI, KENICHI	
	Examiner	Art Unit	
	Jeremy R. Severson	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

The claim rejections have been maintained or modified as follows:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

3. In claim 5, the language "such that $(B/A) \times (G/R) = 1$ " is not supported by the specification. The specification only states that "the diameter of each roller is determined so that the peripheral velocities of both the rollers coincide with each other in consideration of the gear ratio." See spec., p. 2.

4. Similarly, the language in claim 5, "such that $R1 = \{(B/A) \times (G)\} / Q$ " and "such that $R2 = \{(B/A) \times (G+P)\} / Q$ " is not supported by the specification.

5. For the purpose of expediting prosecution, the claims will be examined in the remainder of this Action as if the language quoted above were deleted.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. In the formula of claim 5, " $(B/A) \times (G/R) = 1$ " the symbol that is similar to an equal sign is not a mathematical symbol known by the Examiner or described in the specification.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holtman (US 4,640,409) in view of Saito (US 5,934,663) and Lim (US 6,446,954).

11. Re claims 3-5, Holtman discloses an image forming apparatus (col. 2, line 41) having a pair of rollers (24, 26) for transferring a copy sheet pinching it between the rollers, wherein said pair of rollers consists of a rigid roller (24) and an elastic roller (26) pressed against said rigid roller, the rollers being connected to a driving mechanism composed so that the peripheral velocities of both the rollers are approximately equal (col. 1, line 55 - col. 2, line 10), wherein the diameter R' of said elastic roller before depression, from which R is calculated with a reduction rate Q due to the depression by the rigid roller, is set in the range of $R1 < R' < R2$; wherein $R1$ is a critical value of a

virtual maximum diameter of the elastic roller calculated such that the peripheral velocity of the elastic roller at the part depressed due to the pressing of the elastic roller against the rigid roller coincides with the peripheral velocity of the rigid roller; and wherein R2 is a criterial value of a virtual minimum diameter of the elastic roller calculated such that the peripheral velocity of the elastic roller at the part depressed due to the pressing of the elastic roller against the rigid roller with increased diameter defined as $G+P$, where P is the thickness of the copy sheet. (col. 2, lines 15-26).

- a. Holtman lacks the explicit disclosure of a group of gears which is connected to the pair of rollers. Lim teaches the use of a group of gears which is connected to the pair of rollers with a specified gear ratio in order to drive the respective rollers at certain speeds. See Lim, col. 1, line 66 et seq. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a group of gears to the apparatus of Holtman, as taught by Lim, in order to drive the respective rollers at certain speeds.
- b. Holtman lacks the explicit disclosure of the rubber roller having a hardness of JIS-A Hs70 to 80. Saito teaches the use of rubber rollers in that range, in cases of high-speed carrying of 50 cm/s or carrying for printing on ruled line sheets (Saito, col. 4, lines 25-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use rubber in the range of JIS-A Hs65 to 90 as taught by Saito to the device of Holtman in order to facilitate high-speed carrying of 50 cm/s or carrying for printing on ruled line sheets.

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12. Re claim 2, Holtman as modified by Saito and Lim comprises the image forming apparatus according to claim 1, wherein the medial design value of the diameter of said elastic roller is determined to be about mid-value between said first and second diameter. Because of the fact that in Holtman, the peripheral velocity is independent of roller diameter (col. 2, lines 15-26), said first and second diameters are equal, and therefore the mid-value diameter is equal to the said first and second diameters.

Response to Arguments

13. Applicant's arguments filed 31 October 2006 have been fully considered but they are not persuasive.

14. Applicant argues that Holtman does not teach a group of gears with a gear ratio defined as B/A. The Examiner agrees; however, Lim teaches such subject matter. Holtman teaches using a common drive means (col. 1, lines 59-60), and Lim teaches using a group of gears with a gear ratio.

15. Applicant argues, "Holtman only defines two pairs of conveyor rollers, and the technique has no relation to a roller system for transferring a copy sheet by pinching the copy sheet between the rollers by pressing of the rollers." See remarks, p. 3. The Examiner strongly disagrees. Holtman explicitly says that the invention relates to a conveyor device for conveying sheet material in a copy machine. See cols. 1 and 2.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Severson whose telephone number is (571) 272-2209. The examiner can normally be reached on Monday through Friday.

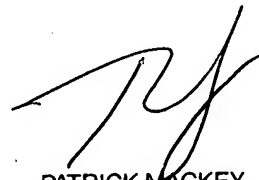
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeremy R Severson
Examiner
Art Unit 3653

jrs



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